CONFIDENTIAL

MEMORANDUM

DATE: July 31, 2012

TO: Brenda Nixon Cook, NPL Coordinator, EPA Region 6

FROM: David Anderson, Dynamac, Inc., Dallas, TX.

SUBJ.: Quickscore
Colonial Creosote, CERCLIS ID – LAN000607134
Bogolusa, Washington Parish, Louisiana

REF: U.S. EPA Region 6 START-3
TDD No. TO-0009-11-11-02

The Colonial Creosote site is located in located in Bogalusa, Washington Parish, Louisiana (LA). Quick Score software was used to generate a site score for the facility. The site scored greater than 28.5. The score is based on EPA site files; federal, state, and local government documents; public documents; soil and surface water sampling and analyses from the START-3 March 2012 field activities for the SI; target information; site contact information; and where necessary, professional assumptions.

The HRS score sheets generated by Quick Score V3.05 are presented in Attachment A. The following information and assumptions were used to derive the site score. Data gaps that could impact the site score and potential scoring scenarios are also presented.

The Colonial Creosote site is located in the southeast portion of Bogalusa, Washington Parish, LA. The 32-acre property is bounded on the west and northwest by a railroad spur for the Illinois Central Gulf Railroad and by undeveloped land to the east and south. Residential communities are located between 0.2 to 0.5 miles to the east, south, and west of the site. Colonial Creosote was a wood treatment facility that operated approximately between 1911 to 1953.

SOURCES

Sources identified from Sanborn Maps and historical aerial photographs include:

- Two aboveground storage tanks that stored creosote. Each tank measured 160,000 gallons. No containment features were evident.
- Two steel treatment cylinders were located in a concrete-lined and bermed containment area. Each cylinder measured 10 feet by 140 feet. The volume of the cylinders was not recorded on the Sanborn Maps, but the containment measured 2.5 feet. It will be assumed that the volume of the cylinders was 259 cubic yards.

- A settling pond located northwest of the tramways measured 50 ft. by 200 ft. No containment features were evident.

- A fire reservoir was located south of the settling ponds and measured 50 ft. by 75 ft. No containment features were evident.

- Contaminated soil in the former wood storage and drying areas along the railroad tracks and tramways was documented by sampling and analyses conducted in 1994 and by START-3 in March 2012. The contaminated soil occupies approximately 5.87 acres.

- Chemicals of concern are polycyclic aromatic hydrocarbons (PAHs), constituents of creosote including acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluroanthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene.

PATHWAYS

Groundwater Migration Pathway

The primary aquifer for the site location is the Alluvial Sands. Wells completed in the alluvial, Upper Ponchatoula, Kentwood, Abita, Covington, Hammond, Amite, Ramsay, and Franklinton aquifers are present within four miles of the site, including domestic, public supply, industrial, irrigation, and monitoring wells.

A water well survey, within a 4-mile radius of the Colonial site was conducted by START-3 utilizing the Louisiana Department of Natural Resources (LDNR) website. START-3 has identified that groundwater within the 4-mile radius of the site is used for the following purposes: municipal water supply, private drinking water source, irrigation, and for industrial supply. The LDNR registered water well database contains information pertaining to public supply, domestic, irrigation, industrial, rig supply, and monitoring wells. Review of the database indicates that the nearest registered well in use is a public supply well located approximately 0.35 miles from the site. Within a 4-mile radius of the site, 365 wells have been registered, 270 of which are listed as active: 23 public supply wells, 110 private domestic wells, 5 irrigation wells, 120 monitoring/recovery/observation/piezometer, and 12 industrial supply wells.

The identified water wells within the 4-mile target distance limit (TDL) radius ranged in depth from 13 feet below land surface (bls) to 2292 feet bls. The City of Bogalusa water system is located within a State approved wellhead protection area.

The total population served by the domestic and Bogalusa municipal wells is summarized in the table below.

Distance From Site (Miles)	Number of Domestic Wells	Population Served (Wells X 2.61)	Number of Bogalusa Municipal Wells	Population Served	Total Population
0 to ¼	0	0	0	0	0
¼ to ½	0	0	1	1336.5	1336.5
½ to 1	3	8	2	2673	2681
1 to 2	25	65	5	6682.5	6747.5
2 to 3	50	130	2	2673	2803
3 to 4	31	81	2	2673	2754
Total Population					16,322

An observed release to the groundwater migration pathway has not been documented. The groundwater pathway received a score of 16.65.

Surface Water Migration Pathway

Surface runoff from the facility flows into a drainage ditch on the eastern side of the property to the south corner of the facility. Flow continues in a drainage ditch parallel to and on the eastern side of the railroad tracks for approximately 500 feet to Yellow Branch, the probably point of entry (PPE) into surface water. Yellow Branch flows to the southeast for 2.31 miles into Dead River, which flows southeast for 0.86 miles into the Pearl River. The remaining 11.83 miles of the 15-mile surface water pathway is within the Pearl River. An observed release to the sediment sample collected at the PPE was documented by the chemical analyses from the START – 3 March 2012 sampling.

- The drainage area is estimated to be equivalent to the total area of the site, which is approximately 32 acres. This estimate is based on the site topography.
- The soils within the area of concern are generally fine sandy loams.
- There are no public drinking water supply intakes located in the surface water pathway.
- It is assumed that Yellow Branch and Dead River are minimal streams and fisheries. Pearl River is a fishery, however, the number of pounds of fish caught and consumed is not known. Other resource use includes recreation and swimming.
- A containment factor value of 10 is assumed for the sources at the site.
- The two-year, 24-hour rainfall event for the area is 5.5 inches.
- The site is not located within the 100-year flood plain, and no containment system for a flood event is established at the source area.
- Wetlands are present at the PPE. According to National Wetland Inventory Maps, approximately 29.7 miles of wetland frontage are located on the 15-mile

TDL.

An observed release to the surface water migration pathway has been documented. The pathway received a score of 100.00.

Soil Exposure Pathway

- Soil samples collected from the site indicated hazardous substances that met the observed contamination criteria.
- The nearest residence is located 0.2 miles from the property. No schools, day care facilities, or places of work are located within 200 feet of a source.
- There are no commercial agriculture, silviculture, or livestock production/grazing activities on the site or any of the surrounding property.
- There are no terrestrial-sensitive environments located on the site.

The site is partially fenced on the western side. Vehicular traffic is impeded by a gate at the property entrance. Within the TDL, there is no resident population and no terrestrial sensitive environments.

The soil pathway received a score of 0.61.

Air Migration Pathway

- A gas containment factor value of 10 is assumed for the source area at the site because of a lack of any containment.
- A particulate containment factor value of 10 is assumed for the site.
- A particulate migration potential factor value of 6 is assumed for the site.
- A particulate mobility factor value of 0.0008 is assumed for the site.
- Commercial agriculture, commercial silviculture, or major or designated recreation areas are not present within ½ mile of a source having an air migration containment factor greater than 0 at the site.
- An estimated population of 17,817 people lives within the 4-mile TDL.

No observed release for this pathway has been established. The air pathway received a score of 0.01 based on potential to release. There are no residents on site.

DATA GAPS

According to the National Wetland Inventory maps, wetlands are not present on the property. Additional documentation may determine whether the overland flow pathway and drainage ditches on-site meet the

40 CFR 230.3 wetland definition.

Additional sediment sampling downgradient from the PPE could determine if Level II contamination exists in the wetlands downstream from the PPE.

CONCLUSION

Based on environmental targets, the surface water pathway is the pathway of concern. The site score is 50.6 and greater than the 28.5 value often used as the criteria to determine if further site evaluation is necessary under EPA Superfund based on potential contamination of the NWI wetlands located in the 15-mile TDL.

ATTACHMENT A

****** CONFIDENTIAL ******
******PRE-DECISIONAL DOCUMENT ******
****** SUMMARY SCORESHEET ******
****** FOR COMPUTING PROJECTED HRS SCORE ******

****** Do Not Cite or Quote ******

Site Name: Colonial Creosote

Region: Region 6

Scenario Name: Site Inspection 2012

City, County, State: Bogalusa, Washington Parish, Louisiana

Evaluator: David Anderson

EPA ID#: LAN000607134

Date: 08/02/2012

Lat/Long: 30:46:1,80:51:54

Congressional District: 4

This Scoresheet is for: SI

Scenario Name: Site Inspection 2012

Description: Observed contamination on-site within 0-2 ft bgs and observed release to the surface water pathway. Environmental targets include wetlands located at the PPE at Yellow Branch.

	S pathway	S^2 pathway
Ground Water Migration Pathway Score (S_{gw})	4.96	24.6
Surface Water Migration Pathway Score (S_{sw})	100.0	10000.0
Soil Exposure Pathway Score (S_s)	0.61	0.37
Air Migration Score (S_a)	0.01	0.0
$S^2_{gw} + S^2_{sw} + S^2_s + S^2_a$		10024.97
$(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		2506.24
$(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		50.06

Pathways not assigned a score (explain):

TABLE 3-1 --GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Aquifer Evaluated: Southern Hills Aquifer System			
Likelihood of Release to an Aquifer:			
1. Observed Release	550	0.0	
2. Potential to Release:			
2a. Containment	10	10.0	
2b. Net Precipitation	10	6.0	
2c. Depth to Aquifer	5	3.0	
2d. Travel Time	35	35.0	
2e. Potential to Release [lines 2a(2b + 2c + 2d)]	500	440.0	
3. Likelihood of Release (higher of lines 1 and 2e)	550		440.0
Waste Characteristics:			
4. Toxicity/Mobility	(a)	2.0	
5. Hazardous Waste Quantity	(a)	100.0	
6. Waste Characteristics	100		3.0
Targets:			
7. Nearest Well	(b)	18.0	
8. Population:			
8a. Level I Concentrations	(b)	0.0	
8b. Level II Concentrations	(b)	0.0	
8c. Potential Contamination	(b)	281.7	
8d. Population (lines 8a + 8b + 8c)	(b)	281.7	
9. Resources	5	5.0	
10. Wellhead Protection Area	20	5.0	
11. Targets (lines 7 + 8d + 9 + 10)	(b)		309.7
Ground Water Migration Score for an Aquifer:			
12. Aquifer Score [(lines 3 x 6 x 11)/82,5000][c]	100		4.96
Ground Water Migration Pathway Score:			
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated)[c]	100		16.65

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 4-1 --SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Watershed Evaluated: Yellow Branch			
Drinking Water Threat			
Likelihood of Release:			
1. Observed Release	550	550.0	
2. Potential to Release by Overland Flow:			
2a. Containment	10	10.0	
2b. Runoff	10	2.0	
2c. Distance to Surface Water	25	16.0	
2d. Potential to Release by Overland Flow [lines 2a(2b + 2c)]	35	180.0	
3.Potential to Release by Flood:			
3a. Containment (Flood)	10	10.0	
3b. Flood Frequency	50	7.0	
3c. Potential to Release by Flood (lines 3a x 3b)	500	70.0	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	250.0	
5. Likelihood of Release (higher of lines 1 and 4)	550		550.0
Waste Characteristics:			
6. Toxicity/Persistence	(a)	10000.0	
7. Hazardous Waste Quantity	(a)	100.0	
8. Waste Characteristics	100		32.0
Targets:			
9. Nearest Intake	50	0.0	
10. Population:			
10a. Level I Concentrations	(b)	0.0	
10b. Level II Concentrations	(b)	0.0	
10c. Potential Contamination	(b)	0.0	
10d. Population (lines 10a + 10b + 10c)	(b)	0.0	
11. Resources	5	5.0	
12. Targets (lines 9 + 10d + 11)	(b)		5.0
Drinking Water Threat Score:			
13. Drinking Water Threat Score [(lines 5x8x12)/82,500, subject to a max of 100]	100		1.07
Human Food Chain Threat			
Likelihood of Release:			
14. Likelihood of Release (same value as line 5)	550		550.0
Waste Characteristics:			
15. Toxicity/Persistence/Bioaccumulation	(a)	5.0E8	
16. Hazardous Waste Quantity	(a)	100.0	
17. Waste Characteristics	1000		320.0
Targets:			
18. Food Chain Individual	50	20.0	
19. Population			
19a. Level I Concentration	(b)	0.0	
19b. Level II Concentration	(b)	0.0	
19c. Potential Human Food Chain Contamination	(b)	0.03	
19d. Population (lines 19a + 19b + 19c)	(b)	0.03	
20. Targets (lines 18 + 19d)	(b)		20.03
Human Food Chain Threat Score:			
21. Human Food Chain Threat Score [(lines 14x17x20)/82500, subject to max of 100]	100		42.73
Environmental Threat			
Likelihood of Release:			
22. Likelihood of Release (same value as line 5)	550		550.0
Waste Characteristics:			
23. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	5.0E8	
24. Hazardous Waste Quantity	(a)	100.0	
25. Waste Characteristics	1000		320.0

Targets:			
26. Sensitive Environments			
26a. Level I Concentrations	(b)	0.0	
26b. Level II Concentrations	(b)	0.0	
26c. Potential Contamination	(b)	50.0	
26d. Sensitive Environments (lines 26a + 26b + 26c)	(b)	50.0	
27. Targets (value from line 26d)	(b)		50.0
Environmental Threat Score:			
28. Environmental Threat Score [(lines 22x25x27)/82,500 subject to a max of 60]	60		60.0
Surface Water Overland/Flood Migration Component Score for a Watershed			
29. Watershed Score[c] (lines 13+21+28, subject to a max of 100}	100		100.00
Surface Water Overland/Flood Migration Component Score			
30. Component Score (S_{SW})[c] (highest score from line 29 for all watersheds evaluated)	100		100.00

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 5-1 --SOIL EXPOSURE PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Likelihood of Exposure:			
1. Likelihood of Exposure	550		550.0
Waste Characteristics:			
2. Toxicity	(a)	10000.0	
3. Hazardous Waste Quantity	(a)	10.0	
4. Waste Characteristics	100		18.0
Targets:			
5. Resident Individual	50		
6. Resident Population:			
6a. Level I Concentrations	(b)	0	
6b. Level II Concentrations	(b)		
6c. Population (lines 6a + 6b)	(b)		
7. Workers	15	5.0	
8. Resources	5		
9. Terrestrial Sensitive Environments	(c)		
10. Targets (lines 5 + 6c + 7 + 8 + 9)	(b)		5.0
Resident Population Threat Score			
11. Resident Population Threat Score (lines 1 x 4 x 10)	(b)		49500.0
Nearby Population Threat			
Likelihood of Exposure:			
12. Attractiveness/Accessibility	100	25.0	
13. Area of Contamination	100	20.0	
14. Likelihood of Exposure	500		5.0
Waste Characteristics:			
15. Toxicity	(a)	10000.0	
16. Hazardous Waste Quantity	(a)	10.0	
17. Waste Characteristics	100		18.0
Targets:			
18. Nearby Individual	1	1.0	
19. Population Within 1 Mile	(b)	8.1	
20. Targets (lines 18 + 19)	(b)		9.1
Nearby Population Threat Score			
21. Nearby Population Threat (lines 14 x 17 x 20)	(b)		819.0
Soil Exposure Pathway Score:			
22. Pathway Score[d] (S_s), [lines (11+21)/82,500, subject to max of 100]	100		0.61

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on terrestrial sensitive environments is limited to a maximum of 60
[d] Do not round to nearest integer

TABLE 6-1 --AIR MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Likelihood of Release:			
1. Observed Release	550	0.0	
2. Potential to Release:			
2a. Gas Potential to Release	500	10.0	
2b. Particulate Potential to Release	500	10.0	
2c. Potential to Release (higher of lines 2a and 2b)	500	10.0	
3. Likelihood of Release (higher of lines 1 and 2c)	550		10.0
Waste Characteristics:			
4. Toxicity/Mobility	(a)	2.0	
5. Hazardous Waste Quantity	(a)	100.0	
6. Waste Characteristics	100		3.0
Targets:			
7. Nearest Individual	50	2.0	
8. Population:			
8a. Level I Concentrations	(b)	0.0	
8b. Level II Concentrations	(b)	0.0	
8c. Potential Contamination	(c)	19.3	
8d. Population (lines 8a + 8b + 8c)	(b)	19.3	
9. Resources	5	5.0	
10. Sensitive Environments:			
10a. Actual Contamination	(c)	0.0	
10b. Potential Contamination	(c)	0.0	
10c. Sensitive Environments (lines 10a + 10b)	(c)	0.0	
11. Targets (lines 7 + 8d + 9 + 10c)	(b)		26.3
Air Migration Pathway Score:			
12. Pathway Score (S_a) [(lines 3 x 6 x 11)/82,500][d]	100		0.01

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
[d] Do not round to nearest integer